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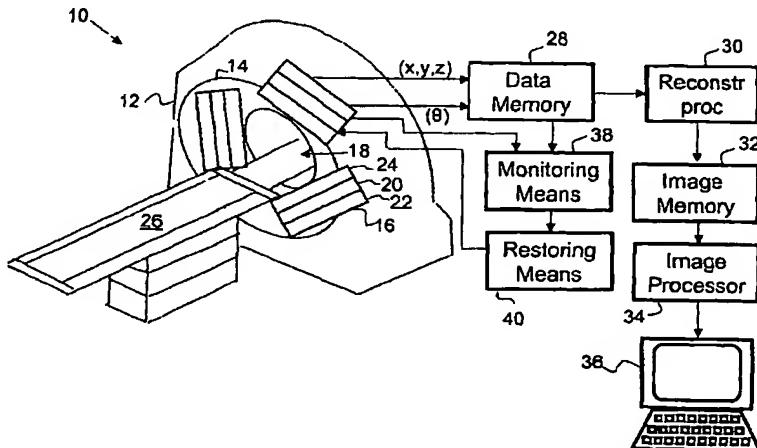
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[Continued on next page]

(54) Title: METHOD AND APPARATUS FOR REVERSING PERFORMANCE DEGRADATION IN SEMI-CONDUCTOR DETECTORS



(57) Abstract: A system reverses degraded energy resolution of semiconductor radiation detection elements (44) which are used in a radiation detector assembly. A means (38) identifies semiconductor elements which exhibit degraded energy resolution as compared to an initial level of energy resolution after application of the forward bias. A means (40) restores the degraded semiconductor elements to the initial level of energy resolution by applying the reverse bias. A heater (74) accelerates the restoration process by supplying an elevated ambient temperature. A screening means (48) screens new semiconductor elements to identify the elements which are susceptible to degradation. A forward bias is applied by a forward bias means (50) to induce the degradation. A heater (52) increases an ambient temperature to accelerate the performance degradation in the new semiconductor elements. The identified degradable elements are treated with a reverse bias prior to installation in the detector.

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